

FIG. 1

GATCTATGCAGAAAATCTACACTATTTGAATCACTTCTCCAAAGGCCAGAAAATCAGCCTGTTAGCTGCAGTTGC
TATGAATGTGAAACACAGAAAGAAAAGAGACTACATTGGGTTTCTATTAGGGCAGGTGGGGCAACTACACAA
TGACTTTAGCTGACTAGCTGAATAGTTTACTACCCAACTCATGAAATAATCTTATATATTTCCTTTAGGAC
CCTTCAATCACTGTTCCAATCAGTGAGTAAAGTTTTCTTAACAAGTCGAATCCTGAGCTGAGGATC

FIG. 2A

5'	AGCCG	GCG	CAG	GGT	GCG	CGG	GGA	GGG	GTG	AGC	AGG	GTG	CCG	CTG	GCT	GCT	GGG	GTC
	P	A	Q	G	G	R	G	G	V	S	R	V	P	L	A	A	G	V
	65	74	83	92	101	110												
	TGC	AGG	TCA	CCG	AGT	CCC	CAG	GAG	AGG	GGA	CTC	CTA	AGA	AGC	CAC	CTG	CCT	GTC
	C	R	S	P	S	P	Q	E	R	G	L	L	R	S	H	L	P	V
	119	128	137	146	155	164												
	TTT	ACC	CGG	CAG	CGA	GCG	CGC	AGG	CCC	CCG	CGA	ACT	CCT	GGC	AGC	GCT	CAG	GAA
	F	T	R	Q	R	A	R	R	P	P	R	T	P	G	S	A	Q	E
	173	182	191	200	209	218												
	AGG	CCG	TTG	CGC	CTC	CGG	AAG	GAA	ACA	GAG	CGG	TTG	ACC	ATG	GTT	GCA	ACT	GCG
	R	P	L	R	L	A	K	E	T	E	P	L	T	M	V	A	T	G
	227	236	245	254	263	272												
	AGT	TTG	AGC	AGC	AAG	AAC	CCG	GCC	AGC	ATT	TCA	GAA	TTG	CTG	GAC	TGT	GGC	TAT
	S	L	S	S	K	N	P	A	S	I	S	E	L	L	D	C	G	Y
	281	290	299	308	317	326												
	CAC	CCA	GAG	AGC	CTG	CTA	AGT	GAT	TTT	GAC	TAC	TGG	GAT	TAT	GTT	GTT	CCT	GAA
	H	P	E	S	L	L	S	D	F	D	Y	W	D	Y	V	V	P	E
	335	344	353	362	371	380												
	CCC	AAC	CTC	AAC	GAG	GTA	ATA	TTT	GAG	GAA	TCA	ACT	TGC	CAG	AAT	TTG	GTT	AAA
	P	N	L	N	E	V	I	F	E	E	S	T	C	Q	N	L	V	K
	389	398	407	416	425	434												
	ATG	CTG	GAG	AAC	TGT	CTG	TCC	AAA	TCA	AAG	CAA	ACT	AAA	CTT	GTC	TGC	TCA	AAG
	M	L	E	N	C	L	S	K	S	K	Q	T	K	L	G	C	S	K
	443	452	461	470	479	488												
	GTC	CTT	GTC	CCT	GAG	AAA	CTG	ACG	CAG	AGA	ATT	GCT	CAA	GAT	GTC	CTG	CGG	CTT
	V	L	V	P	E	K	L	T	Q	R	I	A	Q	D	V	L	R	L
	497	506	515	524	533	542												
	TCC	TCA	ACG	GAG	CCC	TGC	GGC	TTG	CGA	GGT	TGT	GTT	ATG	CAC	GTG	AAC	TTG	GAA
	S	S	T	E	P	C	G	L	R	G	C	V	M	H	V	N	L	E
	551	560	569	578	587	596												
	ATT	GAA	AAT	GTA	TGT	AAA	AAG	CTG	GAT	AGG	ATT	GTG	TGT	GAT	TCT	AGC	GTC	GTA
	I	E	N	V	C	K	K	L	D	R	I	V	C	D	S	S	V	V
	605	614	623	632	641	650												
	CCT	ACT	TTT	GAG	CTT	ACA	CTT	GTG	TTT	AAG	CAG	GAG	AAC	TGC	TCA	TGG	ACT	AGC
	P	T	F	E	L	T	L	V	F	K	Q	E	N	C	S	W	T	S

FIG. 2B

659	668	677	686	695	704
TTC AGG GAC TTT TTC TTT AGT AGA GGT CGC TTC TCC TCT GGT TTC AGG AGA ACT					
F R D F F S R G R F S S G F R R T					
713	722	731	740	749	758
CTG ATC CTC AGC TCA GGA TTT CGA CTT GTT AAG AAA AAA CTT TAC TCA CTG ATT					
L I L S S G F R L V K K K L Y S L I					
767	776	785	794	803	812
GGA ACA ACA GTG ATT GAA GGG TCC TAA AAA GGG AAA ATA TAT AAA GAT TAT TTC					
G T T V I E G S *					
821	830	839	848	857	866
ATG ATT GGG TAG TAA AAC TAT TCA GCT AGT CAG CTA AAG TCA TTT GTA GTT TGC					
875	884	893	902	911	920
CCC ACC TGC CCT AAA TAA GAA ACC CCA AAT GTA GTC TCT TTT CTT TCT GTG TTT					
929	938	947	956	965	974
CAC ATT CAT AGC AAC TGC AGC TAA CAG GCT GAT TTT CTG GCC TTT GGA GAA GTG					
983	992	1001	1010	1019	1028
ATT CAA ATT AGT GTA GAT TTT CTG CAT AGA TCC CAT TTT TGT ACA GAA TTG ATT					
1037	1046	1055	1064	1073	1082
GGG ATG GAA TAG GTA AGC AAA AGT AGA AGC CCA TTT GAG TTT TAC ATT TGA TTC					
1091	1100	1109	1118	1127	1136
CAC AAT TTG GTT TCA GGT AGG CCT GGT GAT AGA CTA TAT AAA CCA GAT TTG CCT					
1145	1154	1163	1172	1181	1190
ATT TTG ATT TTC ATA TGG CTT TTT TTT CTG TAA GTT TTC AGA GGA TTT TTT AAA					
1199	1208	1217	1226	1235	1244
TCA CAG AAT CAT ACT AAA TGA TAT TTA GCC TAT CAA AAC TTC CAA AAG CCC ACA					
1253	1262	1271	1280	1289	1298
CCA CCA GTT CCT GAC TCA AAT TTG AAG GGT TTT TAG ACA GGA GGG TAG GAT TAA					
1307	1316	1325	1334	1343	1352
GTA GGT GAG TTT AAT TAA AGC TTA ACC CTA GGT AAG AGT AAA TGA GAA ATA TTA					
1361	1370	1379	1388	1397	1406
CGG CAA TAA TGG AAC TGC TTC ACT GTT TCT TGG TGA CTT CCT CAC TCT ATT GTT					
1415	1424	1433	1442	1451	1460
TTA AAG AGG CAA CAA AAG CTT ATG GTG CCA TTT CAG TAA CCA CGG TGT TGT TTT					
1469	1478	1487	1496	1505	1514
AGA TGC CCT TAT AAG CTC AGT TTC CCT TGT TCT TAA GTG TTG ATT ACT GTC TTT					
1523	1532	1541	1550	1559	1568
AAA CTA GAA AAA TGC AAA ATA TTG AAC TGA TAT TTC TGT GTG TAG TTT ATT ACT					
1577	1586	1595	1604	1613	1622
CTT CCA TTG AGT GAA TGA TGA ATA CCT GTG AGG ATA GGA ATT GAG TTC TGA GAT					
1631	1640	1649	1658	1667	1676
CTA GTC CCT CTC TGA TTC ACT TAG TAA TCT ATC CTC TTT TCA GTC TTA CAT GTG					
1685	1694	1703	1712	1721	1730

FIG. 2C

CTT AAT CTC AGA TGA ACC ATT TCA CCA TGG CAG TGT TAT CTC ATC TCT GGG CTT

1739 1748 1757 1766 1775 1784
TTC TGG GAA TTG AAG TAT CTC TCC TTA ACC CCA ATT GTC AAG GGT AGT AGC TGT

1793 1802 1811 1820 1829 1838
ATA CTA CCA CTT TGA ATT ATT GAA ACG GGT CAA TTT ACG AAG TCT GCA TTG GCT

1847 1856 1865 1874 1883 1892
ATG GAG ATA TGG TTT ATA GTA CAG CCT AGA GAA TGA AAC TCA CCG TCC AGA TAA

1901 1910 1919 1928 1937 1946
CCA TGC ATG CAC CCA GAT TTT TTC CAC CCT GGA TAC CTG TCA CTA GGG AAT AAT

1955 1964 1973 1982 1991 2000
AAA GGC CTG ATT TTT TGT CTT ATT CCA ACT AAG TAG ATC ATT ATC TCT TTC CTT

2009 2018 2027 2036 2045 2054
TTT TAT GTT AAT GAG AGA ATT TAG CCT CCA CTC AAC AAT GTT CAA TTC AGC AAG

2063 2072 2081 2090 2099 2108
GCT TTC ATA TCC TTG CTG TGG GTC GTG GAT AAG GAG CTT ATT CAG GTT TCC TGC

2117 2126 2135 2144 2153 2162
CCT AGC TAT TAG CTC CAC TTC ACA TGC TGG AGA CTG GCG TAG GGA CAG ATG TAT

2171 2180 2189 2198 2207 2216
TCA TCC TGG TGT TAC TGA AAA ACA GGT GTG ATC CTG TTA GTG ATA CTA TAA GTG

2225 2234 2243 2252 2261 2270
ACC TAA AAT GTC ACT GTT CAA ATT AGC AAG TGT TCT AAC AAA CTA AAC TCT TCA

2279 2288 2297 2306 2315 2324
AAT GCT TGG AAA GAT ACT ACA AAG CCA ATC TTT ATA GAA TTG GCC CAA GAT AAA

2333 2342 2351 2360 2369 2378
TCT ATG TTG TTT TGC ATG GCT ATT GTT AAG CTC CAA AGG TTC ACT GTG TTT CTG

2387 2396 2405 2414 2423 2432
CCG CTG TCC TGG AGT TGT CAC CAC TGA CTG GGC AAG GCT TCT TGG GCA TGG ATG

2441 2450 2459 2468 2477 2486
TAG AAC TGT TGT CCT TTT CCC ACT AAC AGT TAT CTT TGA CTC TCT TGC CTG TTA

2495 2504 2513 2522 2531 2540
TGC TTA CAA AAT GGT GAT GGC TTA TGG AAG GCT GTT AAA TTA ATA TTC CTG TTA

2549 2558 2567 2576 2585 2594
AAG GAA ATT AAA GTT TGT CTA TTT TTG ACA ATA AAA CAT TAT ATA TTT TTA AAA

2603
AAA AAA AAA AAA AAA A 3'

FIG. 3

MVATGSLSSKNPASISELLDCGYHPESSLSDFDYWDYVVPEPNLNEVIFEESTC
QNLVKMLENCLSKSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGC
VMHVNLIEIENVCKKLDRIVCDSSVPTFEELTVFKQENCWTSFRDFFSRGR
FSSGFRRTLILSSGFRLVKKKLYSLIGTTVIEGS

Fig. 4A

Query: 6 SLSSKNPASISELLDCGYHPESSLSDFDYWDYV-VPEPNLNEVIFEESTCQNLVKMLENC 64
SL S + S+ + G+ PE D Y D V +P+ L +E C NL++L+
Sbjct: 45 SLESSDCESLDSS-NSFGFPEE--DSSYLDGVSLPDFEELLSDPEDEHLCANLMLQQLQES 100

Query: 65 LSKSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGCVMHVNLEIENVCKKLDR 124
LS+++ +++L+P +L ++ +++LRL+ +EPGRLRG ++ V +E C + ++
Sbjct: 101 LSQARLGSRRPARLMPSQLVSQVGKELLRLRAYSEPCGLRGALLDVCVEQGKSCHSVQQL 160

Query: 125 VCDSSVVPTFELTLVFKQENCSWTXXXXXXXXXXXXXX-XXXXXXXXLILSSGFRLVKKLYS 183
D S+VPTF+LTIV + ++ W +L LS+GFR++KKKLYS
Sbjct: 161 ALDPSLVPTFQLTLVRLDSRLWPKIQGLLSSANSSLVPGYSQSLTLSTGFRVIKKKLYS 220

FIG. 4B

Query: 6 SLSSKNPASISELLDCGYHPESSLSDFDYWDYV-VPEPNLNEVIFEESTCQNLVKMLENC 64
SL S + S+ + G+ PE D Y D V +P+ L +E C NL++L+
Sbjct: 48 SLESSDCESLDSS-NSFGFPEE--DTAYLDGVSLPDFEELLSDPEDEHLCANLMLQQLQES 103

Query: 65 LSKSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGCVMHVNLEIENVCKKLDR 124
L+++ +++L+P +L ++ +++LRL+ +EPGRLRG ++ V +E C + ++
Sbjct: 104 LAQARLGSRRPARLMPSQLVSQVGKELLRLRAYSEPCGLRGALLDVCVEQGKSCHSVQQL 163

Query: 125 VCDSSVVPTFELTLVFKQENCSWTXXXXXXXXXXXXXX-XXXXXXXXLILSSGFRLVKKLYS 183
D S+VPTF+LTIV + ++ W +L LS+GFR++KKKLYS
Sbjct: 164 ALDPSLVPTFQLTLVRLDSRLWPKIQGLFSSANSPFLPGFSQSLTLSTGFRVIKKKLYS 223

FIG. 5A

Query: 1 MVATGSLSSKNPASISELLDCGYHPESSLSDFDYWDYVVPENLNEVIFEESTCQNLVKM 60
MVATGSLSSKNPASISELLD GYHP SLLSDFDYWDYVVPENLNEV+FEET+TCQNLVKM
Sbjct: 1 MVATGSLSSKNPASISELLDGGYHPGSLLSDFDYWDYVVPENLNEVFEETTCQNLVKM 60

Query: 61 LENCLSKSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGCVMVHNLEIENVCKK 120
LENCLS+SKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGCVMVHNLEIENVCKK
Sbjct: 61 LENCLSRSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCGLRGCVMVHNLEIENVCKK 120

Query: 121 LDRIVCDSSVVPTEFELTLVFKQENSWISLKDFFSRSRGRFSSGLKRTLILSSGFLRVKKK 180
LDRIVCD+SVVPTEFELTLVFKQE+C WTSLKDFFFSRGRFSSGLKRTLILSSG+RLVKKK
Sbjct: 121 LDRIVCDASVVPTEFELTLVFKQESCPWTSLKDFFFSRGRFSSGLKRTLILSSGFLRVKKK 180

Query: 181 LYSLIGTTVIE 191
LYSLIGTTVIE
Sbjct: 181 LYSLIGTTVIE 191

FIG. 5B

Query: 43 NLNEVIFEESTCQNLVKMLENCLSKSKQTKLGCSKVLVPEKLTQRIAQDVRLSSTEPCG 102
NL+V S + L + L + +K+ L C+V +P LTQRIA ++R+S EPCG
Sbjct: 162 NLDDV---SASAVRELSQLQAQLRDAKRRLACTEVTLPNDLTQRIAAEIIRMSEREPCG 219

Query: 103 LRGCVMHVNLEIE-NVCKLDRIVCDSSVVPTEFELTLVFKQENSWTXXXXXXXXXXXX 161
R C + E E N K+ D V FEL L +Q+ W+
Sbjct: 220 ERACTLFIEFESEPNVKVRIAYFKVDPDTVSIFELYLTLRQDKSGWS---SLVPQFIKN 275

Query: 162 XXXXXTLLSSGFLRKVKKLYS 183
T+ +S F L KKKLYS
Sbjct: 276 LTRSNNTINISPDFTLTKKKLYS 297

FIG. 5C

Query: 24 HPESLLSDFDYWDYVVPENLNEVIF---EESTCQNLVKML---ENCLSKSKQTKLGCS 76
+P+ LSD+ W+Y VPE N ++F + L+KM N K L +
Sbjct: 613 NPDVLSLDYVMWEYNVPE---NTIVFSLHVNTLSRYKLLKMKSKHNASEKQPDALLKTA 669

Query: 77 KVLVPEKLTQRIAQDVRLSSTEPCGLRG----VMHVNLEIENVCKLDRIV 125
+++ TQ I DV +S+ PCGL + +N+ I+ + K++ I+
Sbjct: 670 EIILVTD-TQTFD-ISTVHPCGLNIIKKFYQYLKINIPIDVLPNKEWII 720

Fig. 6A

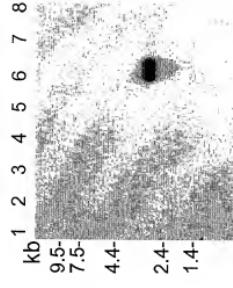


Fig. 6B

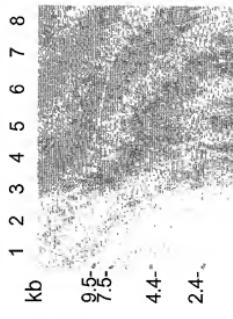


Fig. 6C

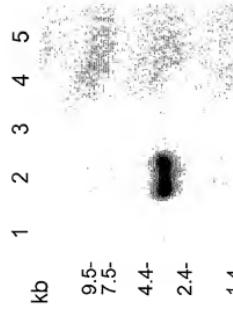


FIG. 7

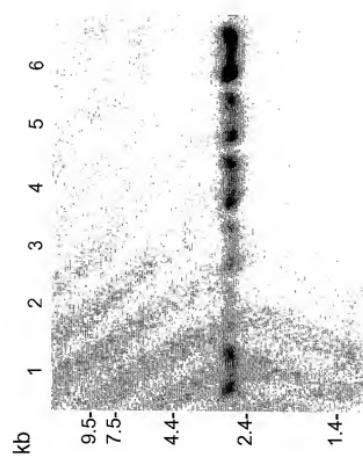


FIG. 8

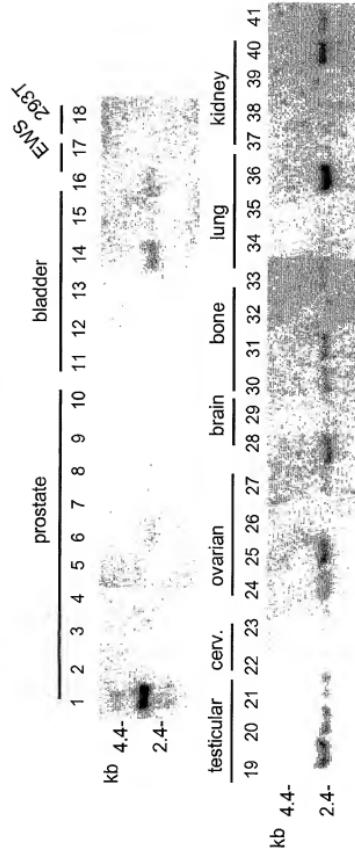


FIG. 9

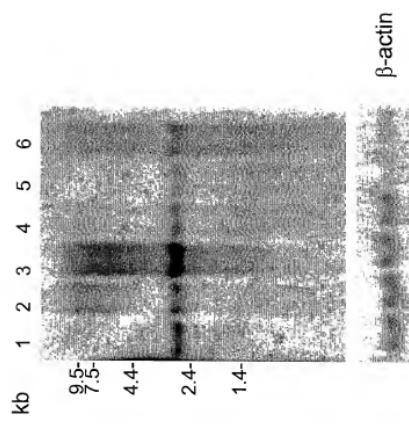


FIG. 10

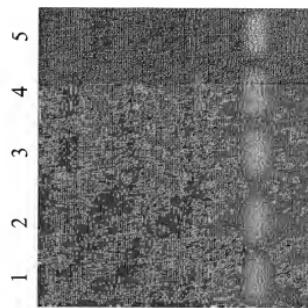


FIG. 11

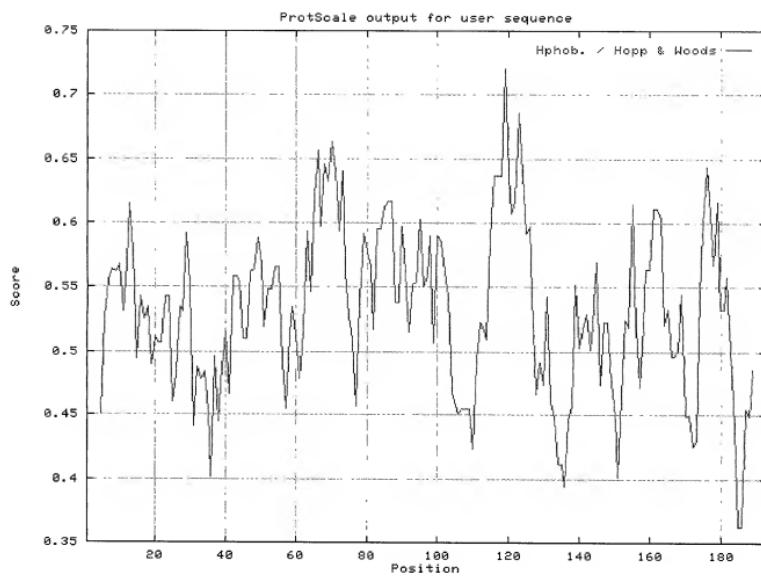


FIG. 12

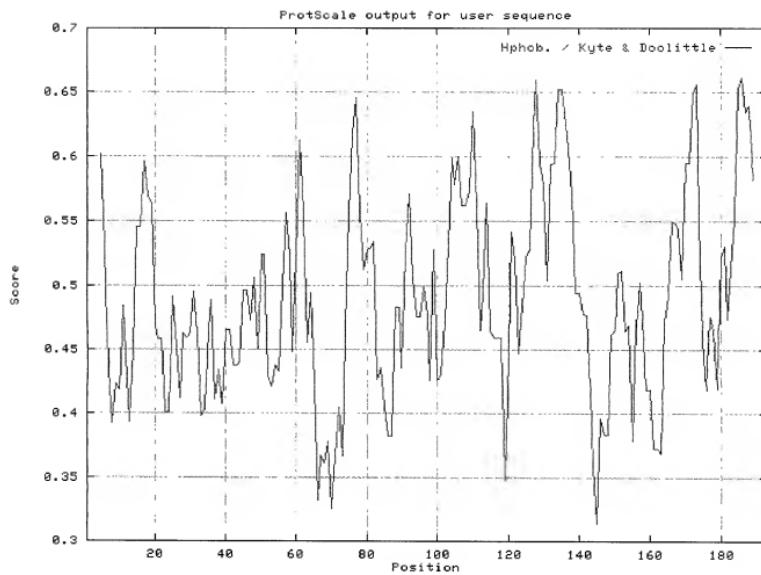


FIG. 13

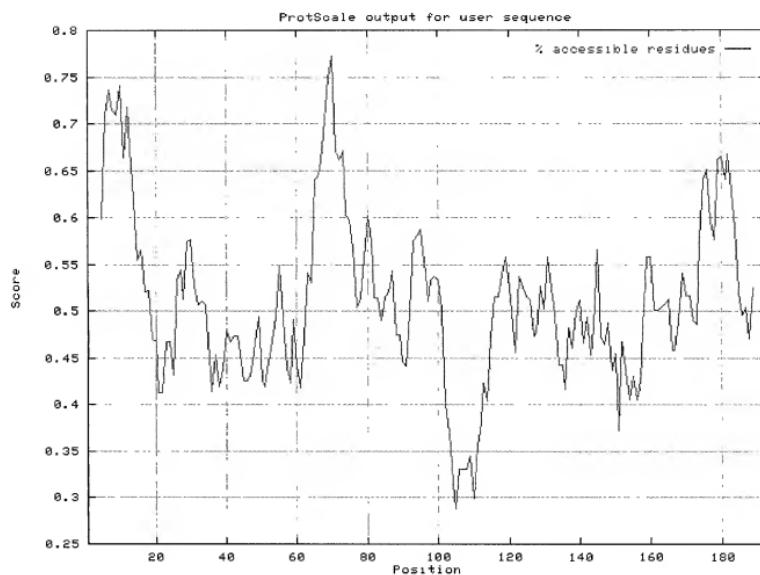


FIG. 14

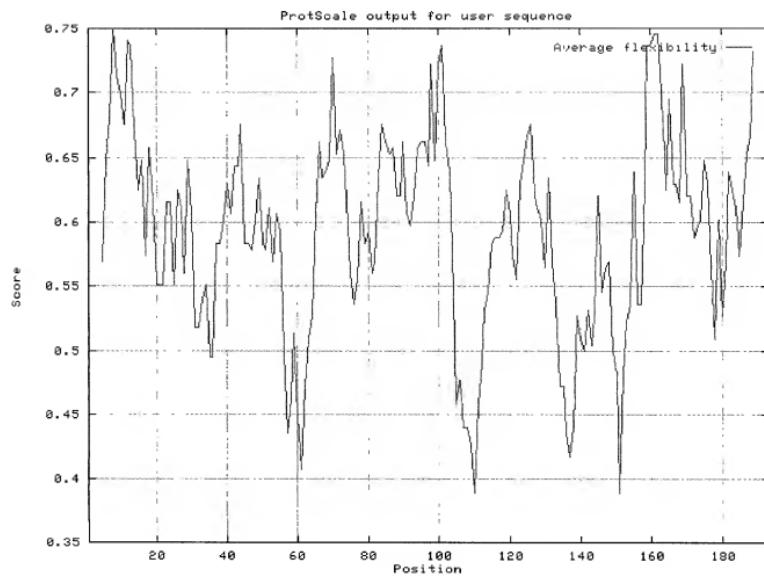


FIG. 15

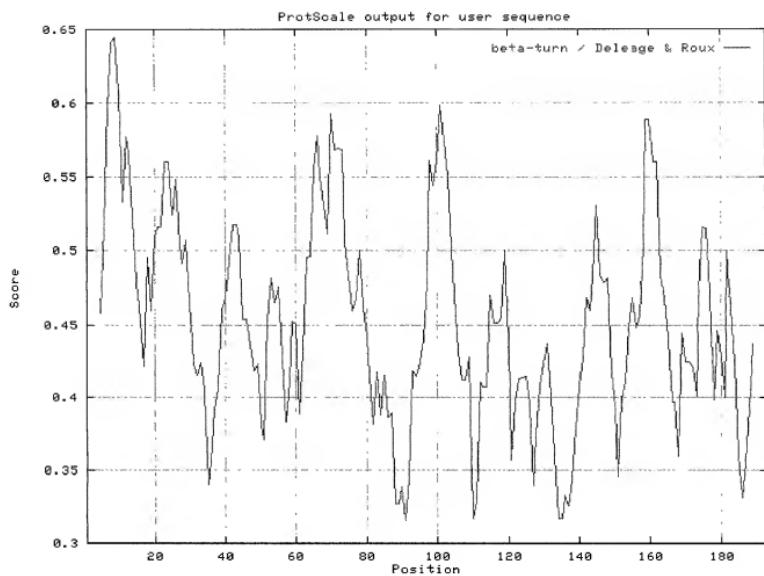


Fig. 16

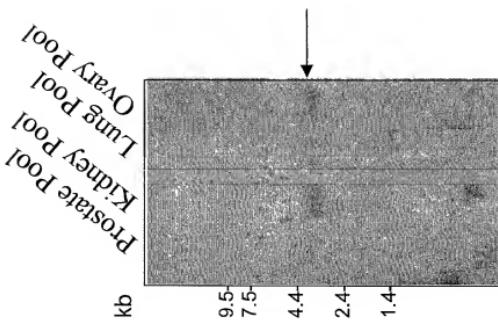


Fig. 17

